

CLAIMS

Claim 1 (currently amended): An automotive seatback system, comprising:
a first panel having a main wall;
a plurality of primary planar ribs positioned upon the first panel;
a plurality of attachment locations attaching the first panel to an automotive vehicle;
and
a plurality of channel forming ribs extending along the main wall of the first panel,
which provide vertical and torsional stiffness to the main wall wherein:
i. the channel forming ribs form tubular structures in conjunction with the main wall;
ii. the first panel, primary ribs and the channel forming ribs are one integrally molded plastic piece; and
iii. one or more of the channel forming ribs along with one or more of the tubular structures extend horizontally substantially entirely from a first side of the first panel to a second side of the first panel, the first side opposite the second side;
and
iv. one or more of the channel forming ribs extend substantially continuously from a lower location to an upper location of the first panel;
wherein the seatback is capable of withstanding without rupture at least about 11,000 Newtons.

Claim 2 (canceled)

Claim 3 (currently amended): An automotive seatback system as in claim 2 1 wherein the plastic piece is made up of a material that includes a plastic selected from the group of styrene, polyamide, polyolefin, polycarbonate, polyester, acrylonitrile butadiene styrene, polycarbonate/acrylonitrile/butadiene styrene, polycarbonate, polyphenylene oxide/polystyrene, polybutylene terephthalate, polyphenylene oxide, polyphenylene ether, syndiotactic polystyrene, ethylene alpha olefin, polybutylene terephthalate/polycarbonate, polypropylene, polyethylene and mixtures thereof.

Claim 4 (original): An automotive seatback system as in claim 2 wherein each of the channel forming ribs is formed by gas assist injection molding.

Claim 5 (currently amended): An automotive seatback system as in claim 1 further comprising a ~~wherein the~~ plurality of attachment locations are defined upon the first panel, each of the attachment locations including a plurality of secondary planar ribs.

Claim 6 (currently amended): An automotive seatback system as in claim 1 further comprising an attachment system rotatably attaching the first panel to an automotive vehicle, the attachment system including: wherein:

- i) ~~a plurality of attachment locations, each of the attachment location including~~ each of the plurality of attachment locations includes at least one looped fastener; and
- ii) a rod ~~extending at least partially~~ extends through the at least one looped fastener of each of the plurality of attachment locations; and
- iii) a pair of brackets are attached to the vehicle and the rod.

Claim 7 (original): An automotive seatback system as in claim 1 wherein at least one of the primary planar ribs extends about the periphery of the first panel.

Claim 8 (original): An automotive seatback system as in claim 1 wherein at least two of the primary planar ribs extend across the main wall in a criss-cross pattern.

Claim 9 (original): An automotive seatback system as in claim 5 wherein one or more of the plurality of channel forming ribs extend between at least two of the plurality of attachment locations.

Claim 10 (original): An automotive seatback system as in claim 6 wherein one or more of the plurality of channel forming ribs extend between at least two of the plurality of attachment locations.

Claim 11 (original): An automotive seatback system as in claim 1 wherein the plurality of channel forming ribs are arc-shaped in cross-section.

Claim 12 (currently amended): An automotive seatback system, comprising:

a first panel having a main wall;

a plurality of primary planar ribs positioned upon the first panel wherein:

- i) at least one of the primary planar ribs extends about the periphery of the first panel;
- ii) at least two of the primary planar ribs extend across the main wall in a criss-cross pattern; and
- iii) the primary planar ribs are integrally formed with the main wall of the same material;

a plurality of attachment locations defined upon the first panel, each of the attachment locations including a plurality of secondary planar ribs;

a plurality of channel forming ribs extending along the main wall of the first panel, which provide vertical and torsional stiffness to the main wall, at least one of the plurality of channel forming ribs extending horizontally at least partially between and substantially interconnecting two of the plurality of attachment locations, wherein the first panel is at least part of a seatback within an automotive vehicle wherein:

- i) the channel forming ribs form tubular structures in conjunction with the main wall;
- ii) the first panel, the primary ribs, the attachment locations and the channel forming ribs are one integrally molded plastic piece; and
- iii) one or more of the channel forming ribs along with one or more of the tubular structures extend horizontally substantially entirely from a first side of the first panel to a second side of the first panel, the first side opposite the second side; and
- iv) one or more of the channel forming ribs extend substantially continuously from a lower to an upper location of the first panel;

wherein the first panel is attached to the vehicle at the plurality of attachments locations.

Claim 13 (canceled)

Claim 14 (currently amended): An automotive seatback system as in claim ~~13~~ 12 wherein the plastic piece is made up of a material that includes a plastic selected from the group of styrene, polyamide, polyolefin, polycarbonate, polyester, acrylonitrile butadiene styrene,

polycarbonate/acrylonitrile/butadiene styrene, polycarbonate, polyphenylene oxide/polystyrene, polybutylene terephthalate, polyphenylene oxide, polyphenylene ether, syndiotactic polystyrene, ethylene alpha olefin, polybutylene terephthalate/polycarbonate, polypropylene, polyethylene and mixtures thereof.

Claim 15 (original): An automotive seatback system as in claim 12 wherein each of the channel forming ribs is formed by gas assist injection molding.

Claim 16 (original): An automotive seatback system as in claim 12 wherein the plurality of channel forming ribs are arc-shaped in cross-section.

Claim 17 (previously presented): An automotive seatback system, comprising:

a first panel having a main wall;

a plurality of primary planar ribs positioned upon the first panel wherein:

- i) at least one of the primary planar ribs extends about the periphery of the first panel;
- ii) at least two of the primary planar ribs extend across the main wall in a criss-cross pattern; and
- iii) the primary planar ribs are integrally formed with the main wall of the same material;

a plurality of attachment locations defined upon the first panel, each of the attachment locations including a plurality of secondary planar ribs;

a plurality of channel forming ribs extending along the main wall of the first panel, at least one of the plurality of channel forming ribs extending at least partially between two of the plurality of attachment locations wherein the channel forming ribs form tubular structures in conjunction with the main wall;

a second panel having a main wall, the second panel laterally adjacent to the first panel for spanning a lateral distance of the seat back system; and

a plurality of channel forming ribs extending along the main wall of the second panel.

Claim 18 (original): An automotive seatback system as in claim 17 wherein the second panel and the plurality of channel forming ribs of the second panel are integrally molded together of a plastic material.

Claim 19 (original): An automotive seatback system as in claim 18 wherein the plastic material includes a plastic selected from the group of styrene, polyamide, polyolefin, polycarbonate, polyester, acrylonitrile butadiene styrene, polycarbonate/acrylonitrile/butadiene styrene, polycarbonate, polyphenylene oxide/polystyrene, polybutylene terephthalate, polyphenylene oxide, polyphenylene ether, syndiotactic polystyrene, ethylene alpha olefin, polybutylene terephthalate/polycarbonate, polypropylene, polyethylene and mixtures thereof.

Claim 20 (original): An automotive seatback system as in claim 19 wherein each of the channel forming ribs is formed by gas assist injection molding.

Claim 21 (previously presented): An automotive seatback system as in claim 20 wherein each of the channel forming ribs is arc-shaped in cross-section, the cross-section taken perpendicular to a length of the channel forming ribs.

Claim 22 (previously presented): An automotive seatback system as in claim 12 wherein the channel forming ribs form tubular structures in conjunction with the main wall.

Claim 23 (canceled)

Claim 24 (canceled)

Claim 25 (previously presented): An automotive seatback system as in claim 17 wherein the first panel is at least part of a seatback within an automotive vehicle.

Claim 26 (previously presented): An automotive seatback system, comprising:
a first panel having a main wall;
a plurality of primary planar ribs positioned upon the first panel;

a plurality of channel forming ribs forming a plurality of tubular structures extending along the main wall of the first panel; and

an attachment system rotatably attaching the first panel to an automotive vehicle, the attachment system including:

- i) a plurality of attachment locations, each of the attachment location including at least one looped fastener;
- ii) a rod extending at least partially through the at least one looped fastener of each of the plurality of attachment locations; and
- iii) a pair of brackets attached to the vehicle and the rod;

wherein the attachment location, the primary ribs, the first panel and the channel forming ribs are one integrally molded plastic piece.

Claim 27 (previously presented): An automotive seatback system as in claim 1 wherein the channel forming ribs have a width of about 4 mm to about 40 mm.

Claim 28 (previously presented): An automotive seatback system as in claim 12 wherein the channel forming ribs have a width of about 4 mm to about 40 mm.

Claim 29 (new): An automotive seatback system as in claim 21 wherein:

- i) the channel forming ribs of the first panel provide vertical stiffness and torsional stiffness to the main wall;
- ii) one or more of the channel forming ribs of the first panel extend horizontally substantially entirely from a first side of the first panel to a second side of the first panel, the first side opposite the second side; and
- iii) the one or more of the channel forming ribs extend substantially continuously from a lower to an upper location of the first panel.